

International Journal of Human- Computer Studies

Editor

B. R. Gaines

Editorial Board

T. R. Addis

N. Cooke

E. H. Mamdani

N. Shadbolt

R. Agarwal

M. J. Coombs

C. McKnight

B. G. Silverman

P. Barker

A. Dillon

A. Monk

D. Sleeman

D. Boehm-Davis

E. A. Edmonds

K. Morik

G. A. Sundstrom

J. A. Breuker

K. S. Eklundh

H. Motoda

A. G. Sutcliffe

R. Brooks

J. G. Ganascia

M. Musen

H. W. Thimbleby

S. Carberry

S. Greenberg

K. L. Norman

S. Wiedenbeck

J. M. Carroll

N. Guarino

S. Payne

B. Wielinga

D. Chandrasekaran

M. Harrison

A. Rappaport

I. H. Witten

P. Compton

D. R. Hill

B. Shackel

EACE Representatives

J.-M. Hoc

G. Van der Veer



ACADEMIC PRESS

London San Diego New York Boston Sydney Tokyo Toronto

Copyright © 1999 by Academic Press

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain

Contents of Volume 50

NUMBER 1, JANUARY 1999

Antillanca, H. B. and Fuller, D. A. Refining temporal criteria to classify collaborative systems 1

O'Hara, K. P. and Payne, S. J. Planning and the user interface: the effects of lockout time and error recovery cost 41

Corritore, C. L. and Wiedenbeck, S. Mental representations of expert procedural and object-oriented programmers in a software maintenance task 61

Hone, K. S. and Baber, C. Modelling the effects of constraint upon speech-based human-computer interaction 85

NUMBER 2, FEBRUARY 1999

Trewin, S. and Pain, H. Keyboard and mouse errors due to motor disabilities 109

Humphrey, M. C. A graphical notation for the design of information visualizations 145

Helfrich, H. Human reliability from a social-psychological perspective 193

NUMBER 3, MARCH 1999

Sutcliffe, A. G. and Carroll, J. M. Designing claims for reuse in interactive systems design 213

Lif, M. User-interface modelling—adding usability to use cases 243

Maguire, M. C. A review of user-interface design guidelines for public information kiosk systems. 263

NUMBER 4, APRIL 1999

Terrier, P. and Cellier, J.-M. Depth of processing and design-assessment of ecological interfaces: Task analysis 287

Campbell, C. S. and Maglio, P. P. Facilitating navigation in information spaces: Road-signs on the World Wide Web 309

Ovsiannikov, I. A., Arbib, M. A. and McNeill, T. H. Annotation technology 329

NUMBER 5, MAY 1999

Costagliola, G., Orefice, S., Polese, G., Tucci, M. and Tortora, G. On the generation of interactive iconic environments 363

Besnard, D. and Bastien-Toniazzo, M. Expert error in trouble-shooting: An exploratory study in electronics 391

Brazier, F. M. T. and Treur, J. Compositional modelling of reflective agents 407

NUMBER 6, JUNE 1999

Taylor, M. M. Editorial: Perceptual Control Theory and its application	433
Thomas Bourbon, W. and Powers, W. T. Models and their worlds	445
Powers, W. T. A model of kinesthetically and visually controlled arm movement	463
Marken, R. S. PERCOLATe: Perceptual control analysis of tasks	481
Farrell, P. S. E., Hollands, J. G., Taylor, M. M. and Gamble, H. D. Perceptual control and layered protocols in interface design: I. Fundamental concepts	489
Taylor, M. M., Farrell, P. S. E. and Hollands, J. G. Perceptual control and layered protocols in interface design: II. The general protocol grammar	521
Haakma, R. Towards explaining the behaviour of novice users	557
Robertson, R. J., Goldstein, D. M., Mermel, M. and Musgrave, M. Testing the self as a control system: Theoretical and methodological issues	571
Tucker, C. W., Schweingruber, D. and McPhail, C. Simulating arcs and rings in gatherings	581